

# AVA7-50

---



AVA7-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 1-5/8 in, black PE jacket (Halogen free jacketing non-fire-retardant)

## Product Classification

<b>Product Type</b>	Coaxial wireless cable
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	AVA7-50
<b>Ordering Note</b>	CommScope® standard product in Asia Pacific   CommScope® standard product in Europe, the Middle East, and Africa   CommScope® standard product in Mexico, Central America, and South America   CommScope® standard product in the United States and Canada

## General Specifications

<b>Flexibility</b>	Standard
<b>Jacket Color</b>	Black
<b>Performance Note</b>	Attenuation values typical, guaranteed within 5%

## Dimensions

<b>Diameter Over Dielectric</b>	44.45 mm   1.75 in
<b>Diameter Over Jacket</b>	51.054 mm   2.01 in
<b>Inner Conductor OD</b>	18.161 mm   0.715 in
<b>Outer Conductor OD</b>	46.355 mm   1.825 in
<b>Nominal Size</b>	1-5/8 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±1 ohm
<b>Capacitance</b>	72.2 pF/m   22.007 pF/ft
<b>dc Resistance, Inner Conductor</b>	1.435 ohms/km   0.437 ohms/kft
<b>dc Resistance, Outer Conductor</b>	0.525 ohms/km   0.16 ohms/kft

# AVA7-50

---

<b>dc Test Voltage</b>	15000 V
<b>Inductance</b>	0.187 $\mu$ H/m   0.057 $\mu$ H/ft
<b>Insulation Resistance</b>	100000 MOhms-km
<b>Jacket Spark Test Voltage (rms)</b>	10000 V
<b>Operating Frequency Band</b>	1 – 2700 MHz
<b>Peak Power</b>	302 kW
<b>Velocity</b>	92 %

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>680–800 MHz</b>	1.13	24.3
<b>806–960 MHz</b>	1.13	24.3
<b>1700–2170 MHz</b>	1.13	24.3

## Attenuation

<b>Frequency (MHz)</b>	<b>Attenuation (dB/100 m)</b>	<b>Attenuation (dB/100 ft)</b>	<b>Average Power (kW)</b>
<b>1.0</b>	0.062	0.019	117.56
<b>1.5</b>	0.076	0.023	95.88
<b>2.0</b>	0.088	0.027	82.96
<b>10.0</b>	0.197	0.06	36.78
<b>20.0</b>	0.281	0.086	25.84
<b>30.0</b>	0.346	0.105	21
<b>50.0</b>	0.45	0.137	16.14
<b>85.0</b>	0.593	0.181	12.25
<b>88.0</b>	0.603	0.184	12.03
<b>100.0</b>	0.645	0.197	11.26
<b>108.0</b>	0.672	0.205	10.81
<b>150.0</b>	0.798	0.243	9.09
<b>174.0</b>	0.864	0.263	8.41
<b>200.0</b>	0.93	0.284	7.81
<b>204.0</b>	0.94	0.287	7.72
<b>300.0</b>	1.156	0.352	6.28
<b>400.0</b>	1.351	0.412	5.37
<b>450.0</b>	1.441	0.439	5.04
<b>460.0</b>	1.459	0.445	4.98

# AVA7-50

---

500.0	1.527	0.465	4.76
512.0	1.547	0.471	4.69
600.0	1.689	0.515	4.3
700.0	1.84	0.561	3.95
800.0	1.982	0.604	3.66
824.0	2.016	0.614	3.6
894.0	2.11	0.643	3.44
960.0	2.197	0.67	3.3
1000.0	2.249	0.685	3.23
1218.0	2.517	0.767	2.89
1250.0	2.554	0.779	2.84
1500.0	2.838	0.865	2.56
1700.0	3.053	0.93	2.38
1794.0	3.151	0.96	2.3
1800.0	3.157	0.962	2.3
2000.0	3.359	1.024	2.16
2100.0	3.457	1.054	2.1
2200.0	3.554	1.083	2.04
2300.0	3.649	1.112	1.99
2500.0	3.836	1.169	1.89
2700.0	4.017	1.224	1.81

## Material Specifications

<b>Dielectric Material</b>	Foam PE
<b>Jacket Material</b>	PE
<b>Inner Conductor Material</b>	Corrugated copper tube
<b>Outer Conductor Material</b>	Corrugated copper

## Mechanical Specifications

<b>Minimum Bend Radius, multiple Bends</b>	381 mm   15 in
<b>Minimum Bend Radius, single Bend</b>	203.2 mm   8 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	50
<b>Tensile Strength</b>	181 kg   399.036 lb
<b>Bending Moment</b>	47.5 N-m   420.41 in lb

# AVA7-50

---

**Flat Plate Crush Strength** 1.6 kg/mm | 89.596 lb/in

## Environmental Specifications

**Installation temperature** -40 °C to +60 °C (-40 °F to +140 °F)  
**Operating Temperature** -55 °C to +85 °C (-67 °F to +185 °F)  
**Storage Temperature** -70 °C to +85 °C (-94 °F to +185 °F)  
**Attenuation, Ambient Temperature** 68 °F | 20 °C  
**Average Power, Ambient Temperature** 104 °F | 40 °C  
**Average Power, Inner Conductor Temperature** 212 °F | 100 °C

## Packaging and Weights

**Cable weight** 1.07 kg/m | 0.719 lb/ft

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CENELEC	EN 50575 compliant, Declaration of Performance (DoP) available
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant

